



International Association  
for Hydro-Environment  
Engineering and Research

Hosted by  
Spain Water and IWHR, China



**resource IAHR**  
*a topic-specific catalog-like  
guide to IAHR resources* **guide on**  
**global**  
**water security**

The IAHR Resource Guide has been designed to be updated constantly and on a regular basis on IAHR.org. Whenever possible, you should access the guide online instead of reading this PDF file, which might not be up to date.

Visit the [IAHR Resource Guide](#).

For any queries or suggestions regarding the IAHR Resource Guide, please contact our Membership Manager, Ms. [Sally Feng](#).

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# IAHR Resource Guide on Global Water Security

Last updated: October 2023

Global Water Security, as is defined by UN-Water, refers to the “the capacity of a population to safeguard sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability”.

This issue is becoming increasingly important and requiring a more holistic approach to address the growing challenges of water management, as our planet has limited freshwater resources, climate change is expected to have significant impacts on water supplies in many parts of the world, and increasing urbanization and global population place additional pressure on water resources.

IAHR is a worldwide independent organization of water engineers and scientists working in fields related to the hydro-environmental sciences and their practical application. Since being founded in 1935, IAHR has made great effort to advance human understanding of the disciplines relating to water security, and in 2010-15 a Task Force was established to bring together the key disciplines of Global Water Security. In 2019 a new Technical Committee on Global Water Security was established under the leadership of Professors Roger Falconer and Arthur Mynett (Past President and Vice President of IAHR respectively).

Below is a guide to part of the related resources IAHR has to offer our members and the global research community, based on the outputs of the Global Water Security Technical Committee.

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# Institutional Setup

## IAHR Technical Committee on Global Water Security

In 2021, IAHR upgraded its Working Group on Global Water Security to a Technical Committee, which focuses on all aspects of the flow of water and the transport of sediments and, in particular, the integrated transport processes of polluting species dissolved or in suspension within a water body and/or adsorbed on the sediments. This would include processes in: catchments, rivers, urban systems, groundwater systems, estuaries, coastal basins and seas.

[More about this technical committee](#)

[Join this technical committee](#)

## Events

IAHR convenes events that set agendas, harness and amplify the collective knowledge of the global hydro-environment community through the organization of congresses, symposiums, seminars, workshops and webinars that have been a popular success since the outbreak of COVID-19. Listed below are just a few of the events that are closely related to this topic.



### 1st IAHR and 4th CAE International Conference on Global Water Security and Sustainable Development

2023-10-30 to 2023-11-01

[INTRODUCTION](#)

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[VIDEO](#)



### 3rd IAHR Young Professionals Congress

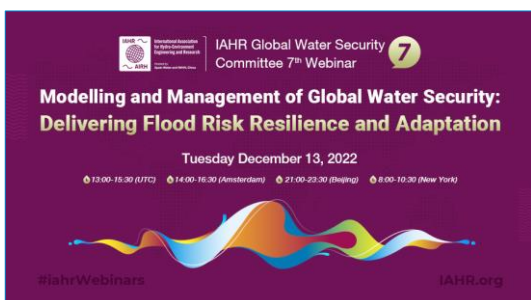
Theme: Global Water Security

2023-11-22 to 2023-11-24

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)



### Modelling and Management of Global Water Security: Delivering Flood Risk Resilience and Adaptation

2022-12-13

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)



## 23rd IAHR Asia and Pacific Division Congress (IAHR-APD)

Special Session 2: Water Security and Climate Adaptation

2022-12-14

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)



## 3rd IAHR Young Professionals Congress

Day 5: Theme on Global Water Security and Water Education

2022-12-2

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)



## Africa Online Summer School

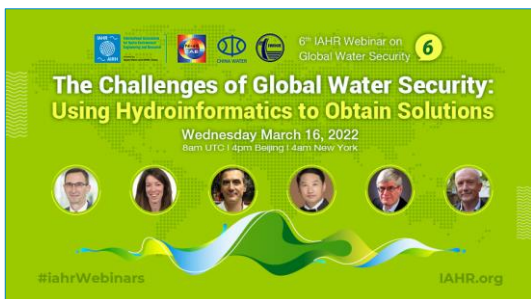
Water Security from Global to Regional Scales

2022-10-02 to 2022-10-12

[INTRODUCTION](#)

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[VIDEO](#)



## Webinar on The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions

2022-03-16

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)



## 2nd IAHR Young Professionals Congress

Day 3: Theme on Sustainable Development Goals and Water Security

2021-11-30

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)

**Water Security Webinar**  
Global Water Security post Covid-19:  
Actions for SDG Agenda 2030

November 10<sup>th</sup> 2021  
8:00-11:00 (Central European Time CET)  
15:00-18:00 (China Standard Time CST)

Hosted by: WWC Water Security Task Force; IAHR  
Organized by: INICE, MWR, IWHR

QR code: Scan the QR code to watch the online webinar.

## Water Security Webinar -- Global Water Security post Covid-19: Actions for SDG Agenda 2030

2021-11-10

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)

**2021 WATER SECURITY FORUM**  
Water security under changing environment

October 26, 2021 16:00-20:00 Beijing Time

## 2021 Water Security Forum

2021-10-26

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)

**1st IAHR Online Forum** July 2021

TECHNICAL SESSION

**The Industry of Global Water Security: Linking Practitioners to Water Solutions**

Wednesday, 7 July 2021

08:00 AM UTC, 10:00 AM Madrid, 04:00 PM Beijing, 04:00 AM New York

#IAHRonlineforum onlineforum.iahr.org

## 1st IAHR Online Forum

The Industry of Global Water Security: Linking Practitioners to Water Solutions

2021-07-07

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)

**1st IAHR Online Forum** 5-7 July 2021

PLENARY SESSION

**Ecohydraulics and Nature-Based Solutions for Water Security**

Tuesday, 6 July 2021

06:00 AM UTC, 08:00 AM Madrid, 02:00 PM Beijing, 02:00 AM New York

#IAHRonlineforum onlineforum.iahr.org

## 1st IAHR Online Forum

Ecohydraulics and Nature-Based Solutions for Water Security

2021-07-06

[INTRODUCTION](#)

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[VIDEO](#)

IAHR Global Water Security Working Group 4<sup>th</sup> Webinar

**The Challenges of Global Water Security: Linking Policy to Water Solutions**

Wednesday June 9, 2021

13:00-15:30 (UTC Time) | 06:00-8:30 (USA Pacific Daylight Time) | 9:00-11:30 (USA East Coast Time) | 15:00-17:30 (Central European Summer Time) | 21:00-23:30 (China Standard Time)

Sponsored by IWHR

## The Challenges of Global Water Security: Linking Policy to Water Solutions

2021-06-09

[INTRODUCTION](#)

[PLAYBACK](#)

[VIDEO](#)

22 MARCH  
WORLD WATER DAY

IAHR Global Water Security Working Group 3<sup>rd</sup> Webinar

### The Fundamental Issues of Global Water Security: Linking Water Security to Nature

Monday March 22, 2021

07:00-09:00 A.G.T. | 09:00-09:30 J.S.A. (Asia, Pacific, India) | 09:00-10:30 A.M. of London / m.s. | 10:00-11:00 C.S.T. (China, Singapore, India, Vietnam, Australia, etc.)

Sponsored by 中国水利水电科学研究院

## The Fundamental Issues of Global Water Security: Linking Water Security to Nature

Can Humans and Nature Both be Water Secure with a Changing Climate?

2021-03-22

[INTRODUCTION](#) [PLAYBACK](#) [VIDEO](#)

IAHR 85<sup>th</sup> ANNIVERSARY SUMMIT

Celebrating 85 years of global leadership in hydro-environment

### The Science of Global Water Security: Linking Knowledge to Solutions

Tuesday 15 December 2020

11:00-14:00 UTC | 06:00-09:00 US Eastern Time | 19:00-22:00 Beijing Time

SESSION 09

Scan the QR Code to watch the online webinar

## IAHR 85th Anniversary Summit

The Science of Global Water Security: Linking Knowledge to Solutions

2020-12-15

[INTRODUCTION](#) [PLAYBACK](#) [VIDEO](#)

IAHR 85<sup>th</sup> ANNIVERSARY SUMMIT

Celebrating 85 years of global leadership in hydro-environment

### Water Security in Africa I

Tuesday, 15 December 2020

09:30-11:00 UTC | 11:30-13:00 Central Africa Time | 04:30-06:00 US Eastern Time | 17:30-19:00 Beijing Time

SESSION 08

Scan the QR Code to watch the online webinar

## IAHR 85th Anniversary Summit

Water Security in Africa I

2020-12-15

[INTRODUCTION](#) [PLAYBACK](#) [VIDEO](#)

IAHR 85<sup>th</sup> ANNIVERSARY SUMMIT

Celebrating 85 years of global leadership in hydro-environment

### Water Security in Africa II: Capacity Building for Research and Innovation

Wednesday, 16 December 2020

09:30-11:00 UTC | 11:30-13:00 Central Africa Time | 04:30-06:00 US Eastern Time | 17:30-19:00 Beijing Time

SESSION 11

Scan the QR Code to watch the online webinar

## IAHR 85th Anniversary Summit

Water Security in Africa II

2020-12-16

[INTRODUCTION](#) [PLAYBACK](#) [VIDEO](#)

IAHR Young Professionals Network

1st IAHR Young Professionals Congress

Online 17-18 November 2020

[ypncongress.iahr.org](http://ypncongress.iahr.org)

## 1st IAHR Young Professionals Congress

Water Resources Management and Global Water Security

2020-11-17 to 2020-11-18

[INTRODUCTION](#) [PLAYBACK](#) [VIDEO](#)



## The Business of Global Water Security: Linking Knowledge to Practice

2020-09-10

INTRODUCTION

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For more events, visit [IAHR.org](http://IAHR.org) at:

All Events

World Congress

Regional Congresses

TC Events

YP Congress

Webinars

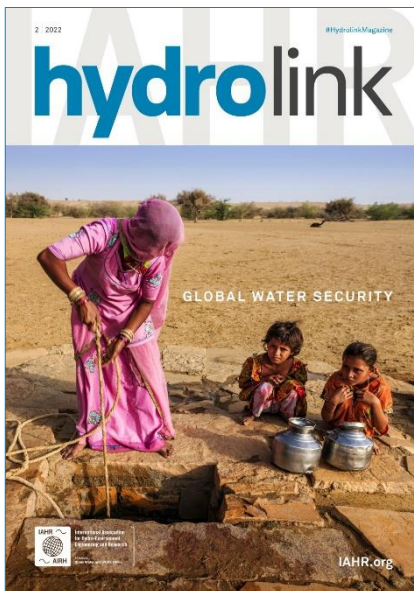
## Publications

IAHR inspires, disseminates and catalyzes state-of-the-art knowledge and thinking on the most important water engineering and related environmental issues of present times through high quality products and peer-reviewed publications.



### IAHR Document Library

Search “[water security](#)” to view and download articles of proceedings, journals, Hydrolink, etc. related to this topic.



### Hydrolink, 2022-2, Special Issue on Global Water Security

Introduction to Global Water Security and Opportunity for IAHR (by Roger Falconer; Arthur Mynett)

Water Security: Climate change and the great unknowns (by Peter Goodwin; David Wegner)

The link between Policy and Water Security (by Angelos N. Findikakis; Tom Soo)

Using Nature-Based Solutions to address water security changes (by Ellis Penning)

Hydroinformatics: Solutions for global water challenges (by Dragan Savic)

China's water security: Problems, pathways and practices (by Jianyun Zhang; Junlian Jin; T. David Zhou)

Facing the challenges of water security: the Spanish Water Governance System (by Teodoro Estrela; Tomás Sancho)

Data assimilation and deep learning in lake algal global bloom forecasting (by Cheng Chen; Yuqing Lin; Tao Feng; Qiuwen Chen)



New challenges of water security: China's action of emerging contaminants (by Nan Xu; Weiling Sun)

[DOWNLOAD this issue in PDF](#)



## HydroLink, 2012-1, Special Issue on Global Water Security

Global Water Security: an Introduction and opportunities for IAHR (by Roger A. Falcone)

Banking on water (by Julia Bucknall)

Business and industrial water security (by Angelos N. Findikakis)

Desalination and water-reuse: demand for hydro-environment engineering and research (by Tobias Bleninger)

The role of water and irrigation development in food security (by Julián Martínez Beltrán)

[DOWNLOAD this issue in PDF](#)

For more publications, visit [IAHR.org](http://IAHR.org) at:

[Document Library](#)

[Journals](#)

[Books](#)

[HydroLink](#)

[White Paper](#)

## Videos

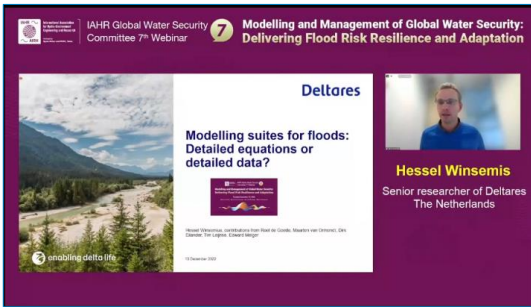
Find out what interests you most among the 340 hours of about 1000 video clips in 100 collections in the IAHR Video Library that have been viewed more than 800,000 times (statistics as of October 20, 2022).



## Opening for the Global Water Security Webinar 7 - Modelling and Management of Global Water Security: Delivering Flood Risk Resilience and Adaptation

Roger Falconer, Arthur Mynett, 2022-12-13

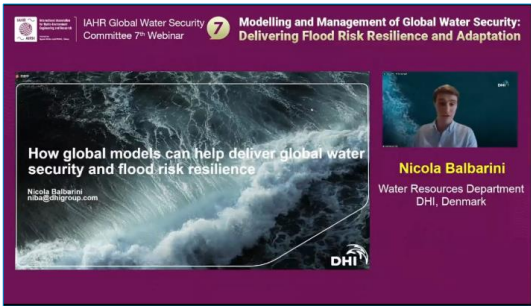
[WATCH Now](#)



## Modelling suites for floods. Detailed equations or detailed data?

Hessel Winsemis, 2022-12-13

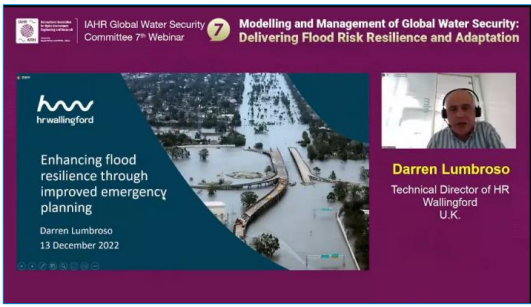
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## How global models can help deliver global water security and flood risk resilience

Nicola Balbarini, 2022-12-13

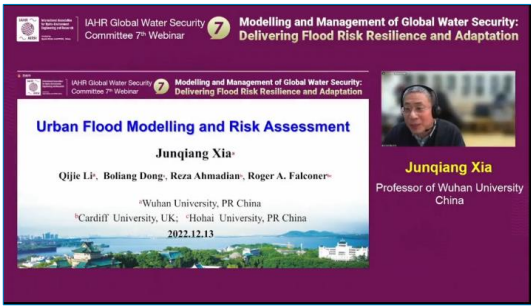
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## Enhancing flood resilience through improved emergency planning

Darren Lumbroso, 2022-12-13

[WATCH Now](#)



## Urban flood simulation and risk assessment

Junqiang Xia, 2022-12-13

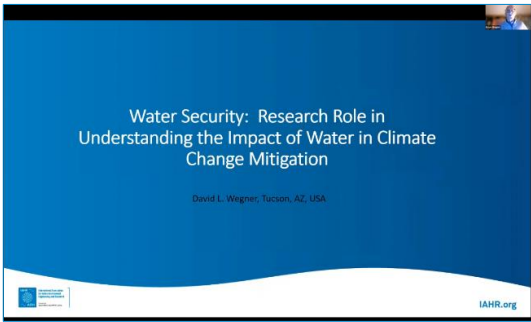
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## Discussion for the Global Water Security Webinar 7 - Modelling and Management of Global Water Security: Delivering Flood Risk Resilience and Adaptation

Roger Falconer, Arthur Mynett et al, 2022-12-13

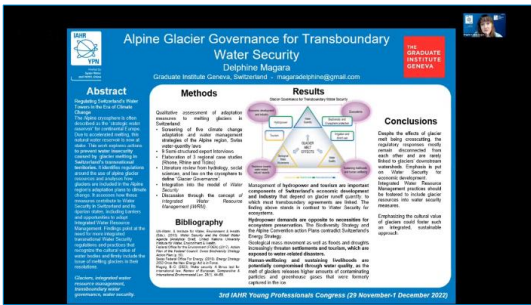
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## Keynote - Water Security: Research Role in Understanding the Impact of Water in Climate Change Mitigation - 3rd iaHRYPCongress

David Wegner, 2022-12-02

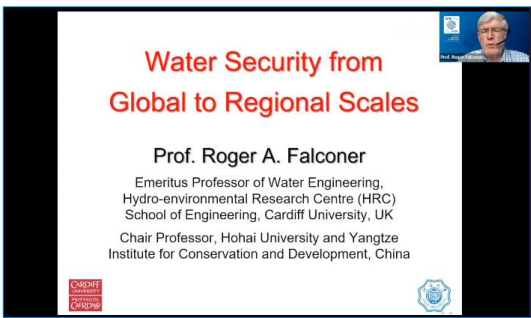
[WATCH Now](#)



## Global Water Security and Water Education - 3rd iaHRYPCongress

David Ferras Segura et al. 2022-12-02

[WATCH Now](#)



## Water Security from Global to Regional Scales

Roger Falconer, 2022-10-4

[WATCH Now](#)



## Introducing the Webinar and Speakers of Webinar on The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions

Roger Falconer, Arthur Mynett, 2022-03-16

[WATCH Now](#)



## Overview of the Opportunities of Solving Global Water Security Challenges through Hydroinformatics

Dragan Savic, 2022-03-16

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6th IAHR Webinar on Global Water Security

**6 The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions**

HR Wallingford, DMOSS, UK SPACE AGENCY

How satellite data and water availability forecasting is helping with the prediction of dengue fever outbreaks

March 2022

Gina Tsarouchi, HR Wallingford, UK

## How Satellite Data and Water Availability Forecasting is Helping with the Prediction of Dengue Fever Outbreaks

Gina Tsarouchi, 2022-03-16

[WATCH Now](#)

6th IAHR Webinar on Global Water Security

**6 The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions**

Digital water – key water management tool for 21st century

Radar, Tweets and Video Feeds

Prof. Vladan Babovic, National University of Singapore

Vladan Babovic, National University of Singapore, Singapore

## Digital Water and AI - Key Water Management Tools for 21st Century

Vladan Babovic, 2022-03-16

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6th IAHR Webinar on Global Water Security

**6 The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions**

IAHR Webinar - 2022

**Data assimilation and deep learning in lake algal bloom forecasting**

Qiuwen Chen, Cheng Chen, Jianyun Zhang, Jue Ding, Gang Li

Nanjing Hydraulic Research Institute, Yangtze Institute for Conservation and Development

Qiuwen Chen, Nanjing Hydraulic Research Institute, China

## Deep Learning and Data Assimilation in Lake Algal Bloom Forecasting

Qiuwen Chen, 2022-03-16

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6th IAHR Webinar on Global Water Security

**6 The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions**

Arthur Mynett, Roger Falconer, Qiuwen Chen, Dhanraj Sankaran, Vladan Babovic

## Discussion of Webinar on The Challenges of Global Water Security: Using Hydroinformatics to Obtain Solutions

Roger Falconer, Arthur Mynett et al., 2022-03-16

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Assessing catchment baseflow and streamflow responses to land cover dynamics using the SWAT model

Testuyuki Balesar Sembata VP, Remata Julia Romonowicz

Institute of Geography, Polish Academy of Sciences, Warsaw, Poland

Methods, Results, Conclusions, Bibliography

2nd IAHR Young Professionals Congress (28 November-2 December 2021)

## Sustainable Development and Global Water Security Session of 2nd IAHR Young Professionals Congress

Roger Falconer et al., 2021-12-02

[WATCH Now](#)



## Introduction of the Water Security Webinar

Qiuchi Shi, Roger Falconer, 2021-11-10

[WATCH Now](#)



## Opening Remarks of the Water Security Webinar

Fauchon Loïc, 2021-11-10

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## Opening Remarks of the Water Security Webinar

Joseph Hun-Wei Lee, 2021-11-10

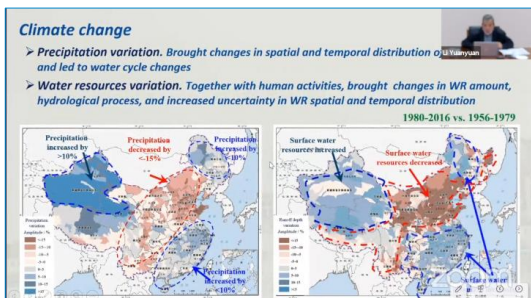
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## Opening Remarks of the Water Security Webinar

Ge Li, 2021-11-10

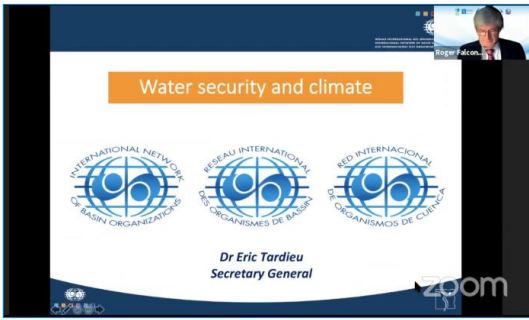
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## Water Security to Achieve SDG Agenda 2030 under Changing Environment

Yuanyuan Li, 2021-11-10

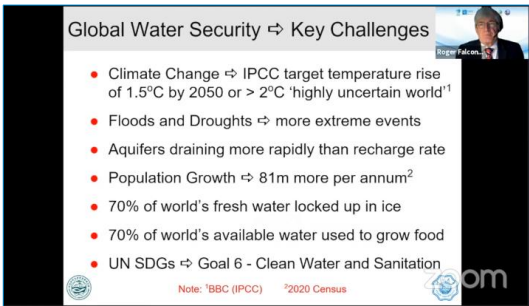
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## Water Security and Climate Change

Eric Tardieu, 2021-11-10

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## Need for Holistic Solutions from Global to Regional Scale

Roger Falconer, 2021-11-10

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## Need for Nature Based Solutions

Arthur Mynet, 2021-11-10

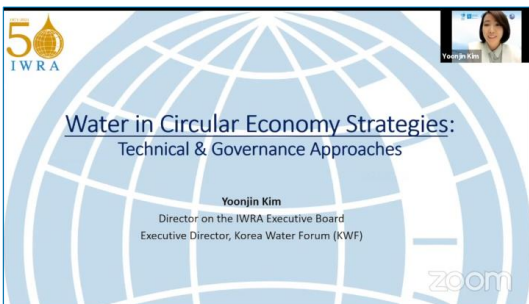
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## The River and Lake Chief System: A Policy Innovation for China's Water Security

Hai Jin, 2021-11-10

[WATCH Now](#)



## Water in Circular Economy Strategies in Mega Cities: Technical & Governance Approaches

Kim Yoonjin, 2021-11-10

[WATCH Now](#)

**Climate Crisis and Water Risks in Asia & Pacific**

- The State of the Climate in Asia (2020) - WMO**
  - Temperature: Warmest year 2020 (1.39°C above 1981-2010 average)
  - Precipitation: More frequent tropical cyclones, floods and landslides
  - Sea level: 3.3mm per year of global average since early 1990s
  - Climate impacts on agriculture and food security
- Asia Water Development Outlook (2020) - ADB**
  - Population: 4.69 billion people in Asia & Pacific
  - Urbanization: 2.2% per annum during 2015-2020 (2.5 billion people, 50% of the population in urban areas by 2030)
  - No access to safely managed drinking water: 300 million people
  - Lack of sanitation: 1.2 billion people
  - Asia & Pacific is the most disaster-affected region: 41% of global disasters and 84% of the people affected
- Asia-Pacific Disaster Report 2021 - UNESCAP**
  - East and North-East Asia: Heatwaves, related biological hazards and tropical cyclones
  - North and Central Asia: Emerging areas of drought, land degradation and biological hazards due to climate change
  - South and South-East Asia: Intermittent floods, droughts, and cyclones, leading to systemic failures
  - Pacific SIDS: Cyclones, ocean warmth and sea-level rise
- COVID-19 impacts with Climate Change and Water Issues**
  - Combined Risks: Natural hazards and disasters hamper the response to the pandemic and facilitate the spread of the disease
  - Social-Economic Risks: Burden to vulnerable countries to cope with the pandemic and continuous climate change impacts
  - Limited access to water, sanitation and hygiene
  - Failure to prevent the COVID-19 infection and other diseases

## Water Security and Climate Change Across the Asia Pacific: from Local to Regional Scales

Yong-deok Cho, 2021-11-10

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## Discussion of the Water Security Webinar

Qiuchi Shi, Roger Falconer et al., 2021-11-10

[WATCH Now](#)

**1st IAHR Online Forum**

**Welcome**

**Aim of this session:**

- To increase the awareness of the opportunities that Nature-based Solutions bring to address societal goals related to water security challenges
- To link academic research to practical implementation
- To discuss the importance of a good connection between the different actors involved in the development of this increased call for Nature-based Solutions

#IAHROnlineforum  
Deltaires

## Introduction of Ecohydraulics and Nature-Based Solutions for Water Security

Ellis Penning, 2021-07-06

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**Nature Based Solution - does it work?**

Tomasz Okruszko  
Warsaw University of Life Sciences, GWP Poland

6 V 2021

## Nature Base Solution – Does it Work?

Tomasz Okruszko, 2021-07-06

[WATCH Now](#)

**Nature-Based Solutions for Water Security: Practice in China and Some Thinking**

Qiuchi Shi

## Nature-Based Solutions for Water Security: Practice in China and Some Thinking

Qiuchi Shi, 2021-07-06


[WATCH Now](#)

**1. Background**

**Current Status of Waterfront Management**

- General Administration**
  - The Ministry of Environment (MOT) purchases lands in buffer strips (within 1 km from the boundary of the river and lake) and builds waterfront ecotone.
  - River Administration by the Ministry of Land, Infrastructure and Transport (MOLIT) and local governments.
  - Lake and reservoir Administration and developed by the Ministry of Environment
- Floodplain within post-dam upper catchment area**
  - Based on the 'Act on Dams' since 1996, dam operators (K-water) have been managing land around dam areas and reservoirs (such as going permission for river usage, etc.)
  - Management by expanded land between Normal High Water level and Designated Flood Stage was transferred from MOLIT to K-water (Enforcement of Dam Management Act in 2018 - including 37 dams, approximately 420km<sup>2</sup> of river section (reservoir to 4,000 lower flow))

Designing strategic waterfront management plan is necessary to utilize dam areas and floodplain as waterfront buffer zone



## Korean Green-Blue Network for Water and Ecosystems

Ji-eun Choi, 2021-07-06

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**WORLD BANK GROUP**

**IMPROVE WATER SECURITY THROUGH GREEN INFRASTRUCTURE**

*Global Perspectives and Experiences from the World Bank*



## Improving Water Security through Green Infrastructure; Global Perspectives and Experiences from the World Bank

Klaas de Groot, 2021-07-06

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## Reflection from IAHR perspective – general discussion with speaker panel

Ellis Penning et al., 2021-07-16

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IAHR Global Water Security Working Group 4<sup>th</sup> Webinar **4 The Challenges of Global Water Security: Linking Policy to Water Solutions**

Presented by **IAHR** and **AIRH**

Presented by **Spain, India and IAHR, China**

**Prof. Roger Falconer**  
Cardiff University / Hohai University

Sponsored by **IWHR**



## Introduction of Webinar on the Challenges of Global Water Security: Linking Policy to Water Solutions

Roger Falconer, 2021-06-09

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IAHR Global Water Security Working Group 4<sup>th</sup> Webinar **4 The Challenges of Global Water Security: Linking Policy to Water Solutions**

**Catalysing water action amongst the private sector**  
June 2021

**Cate Lamb**  
Global Director,  
Water Security of CDP

Sponsored by **IWHR**

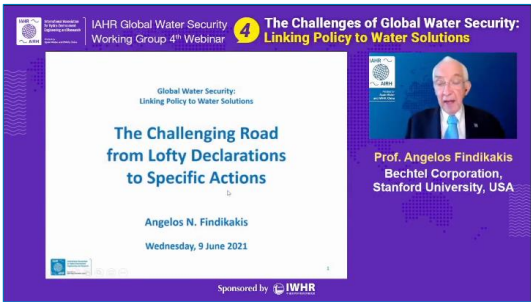


## Triggering Transformation: How Corporate Transparency Has Moved the Dial in Favour of Water Security

Cate Lamb, 2021-06-09

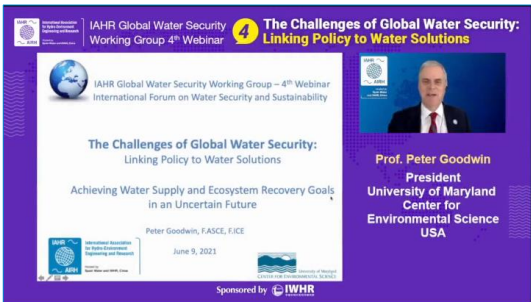
[WATCH Now](#)





**The Challenging Road from Lofty Declarations to Specific Actions**  
 Angelos N. Findikakis, 2021-06-09

[WATCH Now](#)



**Achieving Water Supply and Ecosystem Recovery Goals in an Uncertain Future**

Peter Goodwin, 2021-06-09

[WATCH Now](#)



**Discussion of Webinar on the Challenges of Global Water Security: Linking Policy to Water Solutions**

Roger Falconer et al., 2021-06-09

[WATCH Now](#)



**Introduction of Webinar on the Fundamental Issues of Global Water Security: Linking Water Security to Nature**

Roger Falconer, 2021-03-02

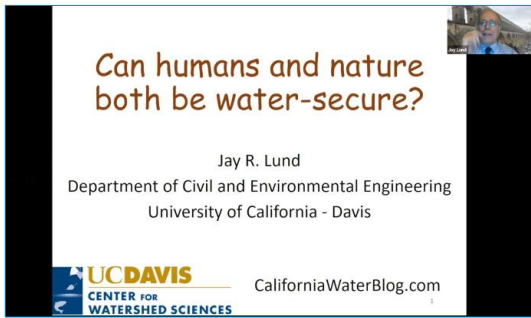
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**Improved Water Security through Connecting with Nature**

Jorg Imberger, 2021-03-02

[WATCH Now](#)



## Can Humans and Nature Both be Water Secure with a Changing Climate?

Jay Lund, 2021-03-02

[WATCH Now](#)



## Using Nature Based Solutions to address water security challenges

Ellis Penning, 2021-03-02

[WATCH Now](#)



## Discussion of Webinar on the Fundamental Issues of Global Water Security: Linking Water Security to Nature

Arthur Mynett, 2021-03-02

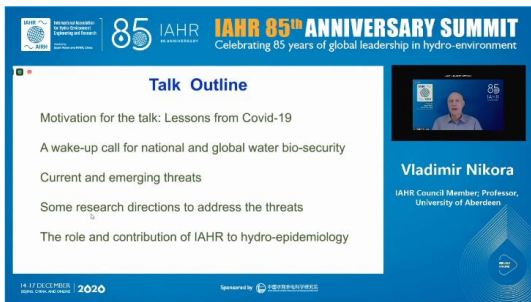
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## Introduction to IAHR & Artificial Intelligence (AI) for identification of toxic algal blooms

Joseph Hun-Wei Lee, 2020-12-15

[WATCH Now](#)



## Flow-biota interactions in aquatic systems: implications for hydro-epidemiology

Vladimir Nikora, 2020-12-15

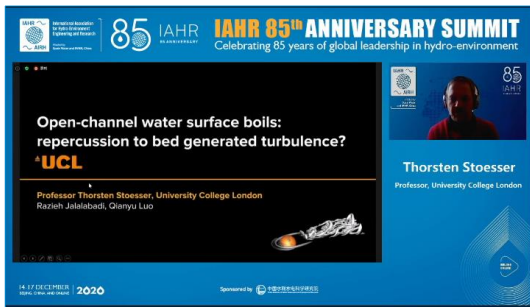
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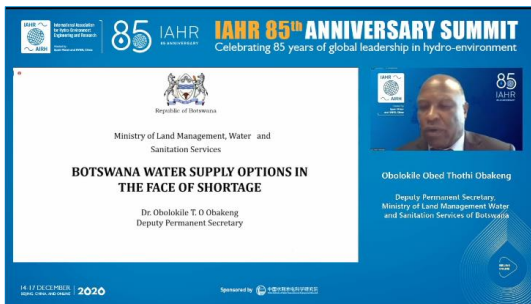
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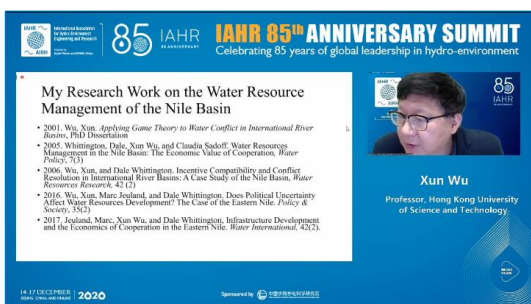
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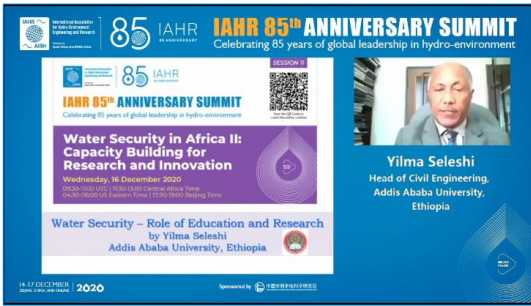
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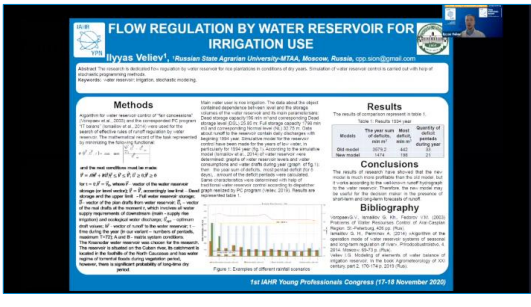
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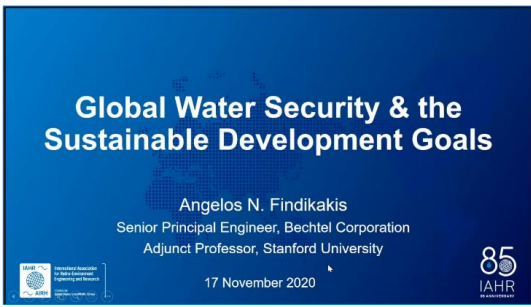
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- Bring together the world's Hydro-Environment experts, researchers and engineers to accelerate solutions and knowledge discovery for a better water future for all!

Our Mission is to:

- Provide a world class international networking platform and great member experience
- Inquire, disseminate and catalyse state of the art knowledge and thinking
- Convene events that set agendas, harness and amplify the collective knowledge of the global Hydro-Environment community
- Act as a global voice on behalf of the water and environment engineering industry as well as the research community

Prof. Joseph HW Lee  
 IAHR President, Hong Kong  
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Netherlands

- 60% is vulnerable to flooding
- 60% of economic value is earned in lowest lying parts of the country
- 70% of fresh water comes from Germany (river Rhine)
- 98% of waterbodies are artificial or heavily modified
- Water Infrastructure is one of the pillars of the Dutch economy

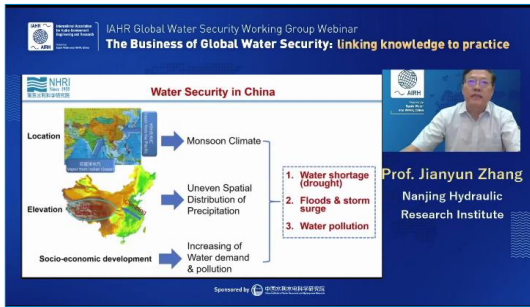
Prof. Arthur Mynett  
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Arthur Mynett, 2020-09-10

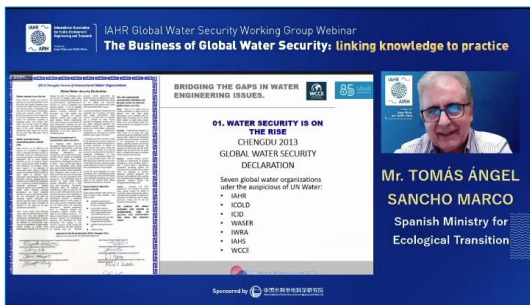
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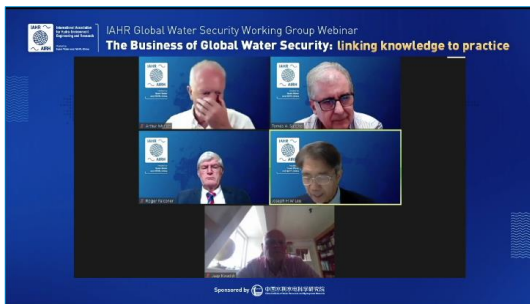
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## Expert Insights

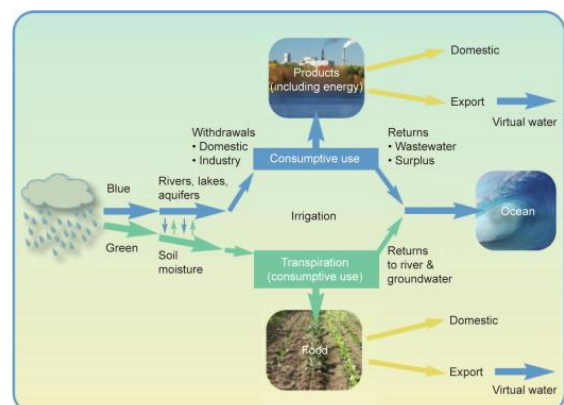
IAHR gathers global top scholars, researchers, scientists and engineers working in fields related to the hydro-environmental sciences and their practical applications, and act as a global voice to facilitate understanding, inspire ideas and make calls for actions.

### Water Security: Why We Need Global Solutions

Prof. Roger Falconer, past IAHR president and current chair of the Technical Committee on Global Water Security, published an article on *Engineering* (Volume 16, September 2022) on “[Water Security: Why We Need Global Solutions](#)” that introduces the challenges of water security, the water cycle and virtual water, and the engineering of global water security solutions.

In this article, Prof. Falconer concluded:

“The global community and key international agencies must appreciate that water is ultimately one of the most





precious resources on the planet today; people have survived on our planet without commodities such as the motor car, but water is essential for life on earth. We need to value water accordingly and ensure that water security lies at the heart of global decision-making and investment.”

[Read this article on Engineering](#)

## IAHR Experts

Below is the list of IAHR individual members who are or were serving on the leadership team of the Technical Committee on Global Water Security. If you would like to connect with one or some of them, please contact our membership manager Ms. [Sally Feng](#).

Please note that there are many IAHR experts in this research discipline who are not listed here, and that expertise fields might not be fully displayed if too long. Please click the names of the experts to view their full profiles.

Full Name	Expertise Fields	Organization	Country
<a href="#">Roger Falconer</a>	Environment; Fluid Mechanics; Environmental Impact Assessment; Water Quality; Numerical Modeling; ...	Cardiff University	United Kingdom of Great Britain and Northern Ireland
<a href="#">Arthur Mynett</a>	Flood Modelling, Hydraulics, Hydraulic Engineering, Hydraulic Modelling, Water Resources Management...	IHE Delft Institute for Water Education	Netherlands
<a href="#">Reza Ahmadian</a>	Hydro-environmental modelling motivated by reducing the risk to humans' health and sustainable use of water...	Hydro-environmental Research Centre	United Kingdom of Great Britain and Northern Ireland
<a href="#">Peter Goodwin</a>	Modeling flows, sediment transport, and river channel evolution	University of Maryland Center for Environmental Science	United States of America
<a href="#">Jörg Imberger</a>	Environmental engineering; strategies for sustaining functionality of aquatic systems in a changing world.	University College London, UK; University of Miami, US	United States of America
<a href="#">Binliang Lin</a>	River & Coastal Dynamics; Environmental Hydraulics; Computational Hydraulics	Tsinghua University	China

Full Name	Expertise Fields	Organization	Country
<a href="#">Dalila Loudyi</a>	Numerical modelling, Hydroinformatics, Climate change adaptation and mitigation (floods and droughts cases)...	Hassan II University of Casablanca UH2C- Faculty of Science and Technology	Morocco
<a href="#">Chunhui Lu</a>	Numerical Simulation, Civil Engineering, Groundwater, Reactive Transport	Hohai University	China
<a href="#">Vladimir Nikora</a>	Open-channel hydraulics, flow turbulence, hydraulic resistance, sediment transport, eco-hydraulics, instrumentation	University of Aberdeen	United Kingdom of Great Britain and Northern Ireland
<a href="#">Thorsten Stoesser</a>	Computational Fluid Dynamics, Numerical Modeling, Numerical Simulation, Fluid Mechanics, CFD Simulation...	University College London	United Kingdom of Great Britain and Northern Ireland
<a href="#">Weiling Sun</a>	Environmental chemistry, water treatment technology, fate and transformation of PPCPs and EDCs...	Peking University	China
<a href="#">David Wegner</a>	Natural Resources, Environmental Awareness, and Environmental Consulting, Analytical Skills	Water Science Technology Board, National Academy of Sciences, USA; Woolpert Engineering	United States of America

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